macdonald FARM journal

MASTERY FOR SERVICE

★ *Russia's "new lands" can grow wheat*

★ *New Dairy Herd Analysis Service*

MARCH 1966

THE MACDONALD LASSIE

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macdonald FARM journal

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CONTENTS

OUR COVER PHOTO: The Dairy Herd Analysis Service was officially inaugurated at the National Salon of Agriculture, February 11, 1966. Its reception by the public was enthusiastic; almost 5000 pieces of literature were given out in the five days. Our photo shows Prof. Peter Hamilton and Dr. Robert Baker (right) discussing some fine points of a Performance Record, while Dr. John Moxley operates IRMA, the Infra-Red Milk Analyser. Supervisor Marcil Couture is placing computer cards in the card sorter. A small-model computer is in the left foreground. Macdonald College gratefully acknowledges the generous assistance of the Bank of Montreal, International Business Machines, the makers of IRMA, and the Salon de l'Agriculture in presenting this display. See the articles on pages 9, 10, 11.

INSIDE

THE EDITOR'S COLUMN

The Quebec Enquiry on Agriculture

One year ago this month, the Government of Quebec in its "Green Paper" on agriculture, announced massive emergency aid to meet the immediate problems facing the industry in the province. At the same time it ordered a Royal Enquiry on Agriculture "because of the extreme complexity of the agricultural problem and the desire to throw all light possible on this problem". The members of the Commission have since been named, and more recently, the Commission has invited "individuals, corporations, groups, agricultural enterprises, agribusinesses, and all others whom it may concern or interest, to present their views on the subjects under consideration, in the from of a brief".

We heartily commend the Government for its action. It is official recognition that agriculture is in a state of revolution, that subsistence farming is under economic pressure, that the transition to commercial farming is creating serious social problems. It is recognition that agriculture is still the basic industry, a key factor in the economy of the province. It is an expression of confidence that within the industry there are men with the ability and the experience to define the objectives and to build a long-term plan for the prosperity of the province's agriculture.

We are disappointed however, with the terms of reference which the Commission has provided to the public in its invitation to contribute its views. It not only presumes to identify the problem, but also provides the solutions leading to an expression of opinion only the means of implementing these solutions. The Commission's purpose, it states, is "to investigate ways and means to increase the farmer's revenue in order to bring it into line with that of other sectors of the economy, and particularly in regard to the establishment of stable and remunerative markets; the improvement of marketing and trading processes of agricultural products; the lowering of the cost of production of farm products; the reduction of the costs of processing of agricultural products; the consolidation of farm enterprises".

Does the Commission thus conclude that low farm revenue is the one and only problem facing agriculture, and that a higher income is the only goal of a farm family ? Does it imply that it is possible to raise to an acceptable level the income on all the farms now in production?

Where, in these terms of reference is there room to consider the social problems of the thousands who can no longer meet the demands of a changing agriculture and must find a new life outside of agriculture ?

Where, within the framework that the Commission provides, is there room to stand back and take a really objective view of the whole agricultural industry within the province, to ask what products can be efficiently turned out in competition with the rest of the world's producers, what special resources and combination of resources we have at our command ?

Where is the invitation to suggest ways to engender that spark of contagious enthusiasm, the prelude to financial success, which distinguishes areas and communities outstanding for their agricultural progress?

Should not thought also be given to the problems of providing guidance and training to the young people who will be the farmers five, ten years from now ? Should it not enquire how to encourage the best among them to take up the challenge of producing food and fibre; how agricultural education can be made attractive and meaningful, instilling a confidence in the future that the industry deserves ?

Respectfully, then, we suggest that the Royal Enquiry on Agriculture should scrap its narrow concept of the problem of agriculture. Let it start with a clean notebook, certainly without the assumption that the apparent problems are indeed the real ones. Let it invite the public to contribute its views on the future of agriculture in the broadest possible terms.

Out of this Enquiry, then, should come new ideas and exciting possibilities, ideas which can be built into practical progressive recommendations to a government which has, by the very act of appointing the Commission, indicated its intention to build a prosperous and proud agriculture in the province.

Walker Riley

Russia's "new lands" can grow wheat

Will Russia still be buying wheat from Canada ten years from now? Dr. H. G. Dion, Dean of Agriculture, and Dr. W. E. Sackston, Professor of Plant Pathology, visited the "New Lands" last July as guests of the Ministry of Agriculture of the Soviet Union. Here, from a recorded interview with Peter Hamilton, are some of Dr. Dion's observations.

Peter Hamilton: *Dr. Dion, how does Russian wheat production compare with Canadian wheat production?*

Dr. Dion: Well, it has some fascinating similarities and it has some fascinating differences. When I arrived in Kazakhstan, which incidentally is just about half way around the world from southern Saskatchewan, I was struck by the fact that it was very similar to southern Saskatchewan, particularly the area around Regina. It was flat and treeless, the wind was blowing, and it was hot and dusty. In fact, I felt quite at home. But when I started looking around and asking questions about the crop production, I found out that there were some very significant differences. In southern Saskatchewan we operate on the basis of either a half or a third summer fallow. The people that like to gamble have two crops after fallow; the second one is a success depending upon how much it rains. In a poor year, it is a failure. In Kazakhstan I was fascinated to find out that they could run three and four and even five crops in the more favourable areas between fallow years. This means much more efficient use of the soil, and it is a sign of a very much greater moisture efficiency.

Peter Hamilton : *How do you account for this better use of water?*

Dr. Dion : I am not sure that I can account for it, but I found a lot of clues. First of all, the country there should be dryer than it is in southern Saskatchewan because the rainfall is only about 12 inches, and in Saskatchewan it is 15. But in Kazakhstan apparently there are not as many of those days when the temperature goes up to 105, and when it is hot in Kazakhstan, the wind doesn't blow, it seems. When it is dry, the relative humidity isn't as low as in Saskatchewan which means that the crop can make better use of the moisture supplies that are in the soil. This is part of the answer.

Dr. H. G. Dion

Peter Hamilton: *The big purchases of wheat that are being made by Russia from Canada would indicate that they perhaps are not really too efficient in their wheat production. Is this the impression that you gained ?*

Dr. Dion : I gained the reverse impression. I was very impressed by what I saw at the big State farm I was on, and I considered that they did as good a job of raising wheat as we do on our best farms in Saskatchewan. I think it is important to recognize that the U.S.S.R. has an annual wheat crop of about two billion bushels a year on the average. This is about four or five times Canada's production. Now when we don't get the rains in western Canada, it isn't at all abnormal for us to have only half our average yield. But in Russia, if they have as much as 25% below their average, they are 500 million bushels short, more that the entire Canadian crop. So they are in the market for wheat from Canada. I think that we can continue to sell wheat to the U.S.S.R. for the next little while, at least whenever it doesn't rain enough there.

Peter Hamilton : *Apparently, what is a very large sale to us is not quite as big a purchase to them. Two billion bushels sounds like an awful lot of wheat. What do they do with it all ?*

Dr. Dion : Well, the Russians eat a lot of bread. They are fascinating bread eaters. Of course, in Canada we only use bread to hold up butter. Most of the bread we have isn't worth eating. In Russia, they are very fond of bread. I think it has some kind of emotional appeal to them. It is not uncommon at all to see people in a restaurant pick up a little pile of four slices of black bread, another little pile of four slices of white bread, which is more bread than I normally eat in two or three days.

Peter Hamilton : *Did you find the bread better ?*

Dr. Dion : Oh, yes, the bread had a taste. It was good bread. I think they are going to continue eating bread for a long time. It is characteristic of our society, of course, that the more money we make, the less bread we eat. But although their standard of living is increasing, and it appears to be increasing quite rapidly, I think their bread consumption will stay up for quite a while.

Peter Hamilton : *Now about this*

(continued on page 8)

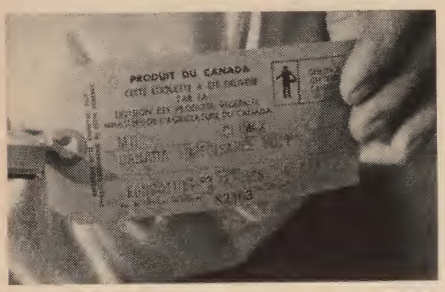
Why not a seed farm?

by W. W. Keeler*

Quebec imports each year most of its requirements of Certified and Registered seed. For example, in one year alone, 210,000 bushels cereals, 195,000 pounds Timothy and 107,000 pounds Red Clover were brought in. In this article, W. W. Keeler, Superintendent of the Provincial Seed Farm, who believes that much of this seed could be produced at a profit within the province, explores the possibilities for commercial seed farms.

(SEE PAGE 23 FOR BUDGET FOR SEED FARM)

In this article, oats, timothy and red clover only will be considered, because these three crops are not difficult to grow, and a very practical rotation could be arranged for pedigreed seed which would meet the requirements laid down by the Canadian Seed Growers Association. As competence and efficiency increased through experience, other crops, such as birdsfoot trefoil, other legumes, flax, brome grass could be considered as seed crops.



The high standard of Canadian seed is recognized the world over.

As well as the domestic trade, a good export market could be developed, because seeds of the forages, especially, are in good demand elsewhere due to their winter hardy characteristics.

The basic problems of management of a specialized seed production enterprise would be to operate at the most profitable scale of output and to keep productive resources, (land, labour, capital and management) in the most effective balance so as to make farm profits as large as possible.

Labour requirements are small as compared to a livestock enterprise giving a similar return. Mechanization can speed the handling of the product and eliminate a lot of hard work. Long hours may be necessary at seeding and harvesting but the rest of the year an 8-hour day should suffice. Extra help at roguing periods might be necessary but school age casual labor is quite adequate when properly managed.

Expensive housing can be eliminated; the main requirement is that the harvested crop be stored in a dry place. Rodents are not a problem with the newer rodenticides available today; a couple of cats work equally as well, perhaps better.

An operator with one helper should be able to carry on 210 acres in seed production with little difficulty. The most important requirement is to keep careful records, exercise care in cleaning, planting, and harvesting to avoid mixtures of seeds, and to make sure that procedures as set down by the C.S.G.A. are followed so that the crops produced can be pedigreed. If this is not done the margin of profit will be reduced because the seed would have to be sold as a commercial grade.

Since the enterprise is specialized the inventory would not be as broad as for a mixed farming operation. Mechanization can eliminate practically all heavy manual labor, and can speed up the handling of the harvested crops during processing. Breakdowns can be kept to a minimum with proper care and maintenance. Repairs and maintenance to machines could be done by the farm operator during the winter or early spring after the seed has been cleaned.

On a farm with 210 acres arable land, 105 acres of timothy, 70 acres of oats, and 35 acres of red clover would constitute a workable rotation. Of the 210 acres, 70 acres would be plowed annually soon after the removal of the crops; this would be one timothy area, and one cereal area. One plot would be seeded to straight cereals, one plot to cereals seeded down to red clover and timothy. Commercial fertilizer in the class 10-10-10 at 300 to 400 lbs. per acre could be applied on the timothy sod as soon as the snow is off in the spring. The cereals would be fertilized at seeding time with 200 lbs. 8-16-16. Actual rates and analysis would be determined by soil tests.

With the chemicals available today, a good spray prgram could be followed by which all weeds could be controlled. If couch grass infestations were large a crop such as white beans could be grown and chemicals which could be used in beans would eliminate it. As soon as the timothy crop was removed the area could be sprayed and this would give a place to gain some degree of control over perennial weeds.

One variety of each crop would be grown in any one year. This simplifies the seeding and harvesting operations, and eliminates time consuming steps needed to thoroughly clean machinery. The rotation does allow for a change of variety in any crop each year if the need arose.

Fertility would be maintained with commercial fertilizer and crop residues, which could be chopped with a rotary type chopper to aid in the rotting process.

All crops could be swathed and allowed to dry on long stubble, this would reduce the danger of shelling due to over-ripening, and lower the moisture

* *W. W. (Wink) Keeler, Dept. of Agronomy Macdonald College, is Superintendent of the Provincial Seed Farm.*

content of the seed to a safe level for storage without danger of overheating which could reduce quality and germination.

LAND AND EQUIPMENT

In order to obtain land in an area suitable for seed production, one should be prepared to pay $150 an acre for a 250 acre farm. This would include a house and presumable buildings which could be converted to meet the needs for storing the crop and housing cleaning and processing equipment.

Two tractors in the 35 H.P. range and a full line of land preparation and harvesting machinery, including a pull-type combine and self-propelled swather, could handle all the work.

FINANCING

For a man to step out and buy land and new equipment would mean an investment of $58,390. A "package deal" loan from the Farm Loan Board could be arranged for 75% of this amount to be mortaged over a 25-year period or longer if necessary. Another $15,000 would be needed to make up the required outlay. The most desirable thing would be to have this amount available as ready cash, but failing that some arrangements could probably be made to borrow it. If the operator was mechanically inclined, substantial savings could likely be made in machinery purchases by buying good used equipment. In addition it might be possible to do without the cleaning equipment if a good custom operator could be found to process the harvested crop. This would increase the yearly expenses in actual cash outlay, but would save on initial cost, depreciation, and insurance.

CONCLUSION

There are two main reasons why seed production will never become a large scale agricultural enterprise in Quebec. The first is that the farmers of this province are primarily concerned with mixed farming, and secondly, only a limited area is climatically adapted to seed production. Those farmers in these areas where seed can be successfully and profitable grown who wish to specialize could be assured of a ready market. Competition would come only from outside the province, and shipping costs would give the local producer a big advantage.

The net income per farm should compare very favourably with a livestock industry requiring more land, more labour, and less independence. For those already in seed production, there would be no concern for alarm because the additional 80,000 acres which were established as necessary would not be interfering with their markets, but only providing seed which is at present imported.

Largest percentage of seed exported from Canada goes to the United States. Seed is also exported to western Europe, one area in which trade officials are concentrating efforts to increase use of Canadian Seed.

A swather is almost essential in seed production. A good used pull-behind model can reduce initial capital outlay.

Bits and Fleeces of Textile News

PROFESSOR M. M. JENKINS
SCHOOL OF HOUSEHOLD SCIENCE

WOOLMARK

This is the Woolmark, fifteen gracefully tapered lines curved on three arcs, an artist's abstract of a softly knotted skein of woollen yarn. Montreal flaunted it last Fall.

Policed by the International Wool Secretariat and backed by the laws of the country in which it appears, the Woolmark on any garment or fabric guarantees that the fabric consists of pure virgin wool, with an allowance of 5% for visible decorative yarns and 0.3% for impurities.

The I. W. S. hopes within a year to add further guarantees of specified colour fastness, tensile strength and other performance qualities.

The license to use the Woolmark is granted to garment makers, spinners, weavers and retailors and this right is taken away for any misrepresentation.

Swing labels must carry the name or trade mark of the licensee or his code number, or a reference to the sew-in tag which must always be coded. The names, trade marks or codes are registered with the policing I. W. S. The consumer is completely protected.

INSTANT SKIRTS

Stitch one seam, turn up one hem, and the skirt is ready to wear. Record time of construction: five minutes. This is the claim for the instant skirt.

The fabric is wool, sold in two widths, one for tall girls, one for petites. The secret is a selvedge which has a woven-in waist band of elastomeric yarn, possible the spandex that divorced the sock from the garter and tames exuberant bulges.

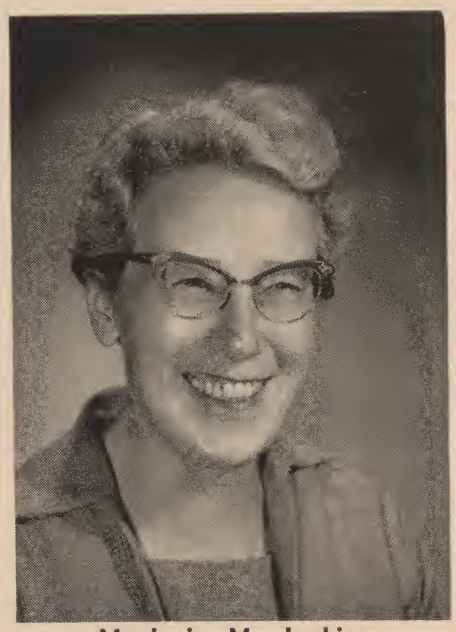
The instant skirt needs no fitting. The fabric is so designed that it moulds to the body without the conventional darts and tucks.

INSTANT SHAPE

The consumer's dream: a suit or dress with the pleats and creases locked in, the wrinkles and puckers locked out, that never loses its smoothness and shape, that resists wrinkling and puckering through repeated launderings, that needs no ironing, that can be washed and tumble-dried to emerge looking as if it had never been wet.

A Korotron permanent press finish is the fairy godmother.

The cloth is impregnated with specially selected resins and sulphones, then dried. The garment maker cuts and sews the garment, then bakes it in a high-temperature oven to polymerize or develop the resins which fix the pleats or creases forever.



Marjorie M. Jenkins

But the manufacturer will have problems. If the oven temperature is too cool, the garment will not hold its shape, it too hot, the fabric will lose strength and the dyestuff change colour.

The consumer too will have problems. The fabric tends to abrade along the pleats and creases. Since puckers in seams must be eliminated, the garments will be sewn with a long stitch and loose tension, neither conducive to long wear. Because the shape is permanently set, re-fitting will be difficult. And lastly the fabric will be stiffened. Does the consumer really want a built-in shape?

Russia's "new lands"

(continued)

100,000 acre state farm you saw. What about their tillage methods, and their mechanization. Are they handling this in a modern way?

Dr. Dion : I was thunder struck, Peter, when I started asking some questions. They had a big acreage to sow in the spring. I asked them how they did this. They said they did it all in eight days. They put out 42 outfits doing the seeding: 29 small tractors each of which pulled 3 seed drills and 13 big tractors each of which pulled 5 seed drills. They kept them going night and day and did the whole job in eight days. I saw them summer fallowing with the Noble blade which incidentally was invented in western Canada, in Alberta. Using the Noble blade for summer fallowing, they covered the ground at the rate of about 12 to 13 acres an hour, which is not bad. The harvesting was done on this particular state farm with 120 one-man self-propelled combines, and they had another 17 coming in the fall. I thought they were doing an excellent job.

Peter Hamilton: *What about the management of this 100,000 acre farm?*

Dr. Dion : The director of the State farm was a very competent, very efficient farm management agronomy specialist. He was trained in an agricultural college and certainly knew exactly what he was doing. I would say that every state farm will have a staff of one to five qualified degree holding agriculturalists running the show. On collective farms, I think the profitable ones will have a staff of these well-trained technical people, but the unprofitable ones can't afford to hire them, and get along without.

Peter Hamilton: *Looking into the future, can we count on a market for wheat in Russia in the years ahead?*

Dr. Dion : I don't think so, Peter. In the short run, yes; in the long run, no. First of all, the New Lands were opened up in 1954, which is only 11 years ago. They are still having some growing pains. From what I could find out, the average production will likely increase over the whole area. Let us remember this represents 55 million acres of wheat which is at least twice as much as Canada's wheat acreage. The average will probably increase by a third to a half in the next five to seven years. And the increase that they will get just from better methods of management and the use of more fertilizers will be equivalent on the average to Canada's exportable surplus each year.

Macdonald College Introduces . . .

The Dairy Herd Analysis Service

No "tool" ever offered to the dairy farmers of Eastern Canada carries more promise for improving net farm income than the New Dairy Herd Analysis Service.

The Dairy Herd Aanlysis Service is a new electronics-age herd management program for dairy farmers in Eastern Canada. Patterned after the highly successful D.H.I.A. program in the United States, there is every reason to believe that it can bring the same spectacular improvement to our dairy herds, and in as few years.

In New York State, for example, average production per cow per year of all herds on D.H.I.A. has jumped 1600 lbs. in just four years. In hard cash, that is an extra $64 worth of $4.00 milk for every cow in the barn. These herds are now averaging close to 13,000 lbs. per cow, purebred and grade. That is about 4,000 lbs. above State average. Altogether in the States, thirteen centres now have 2,000,000 cows enrolled. Thanks to the generous co-operation of our neighbours to the south, the new Dairy Herd Analysis Service will incorporate the 30 or more changes anticipated for the American programs.

The Service is to start early in April. The first supervisors are being selected from this year's graduating class in Diploma Agriculture. Three or four pilot units will be formed in the Montreal milk shed, within working range of the College. As the program develops, new groups will be organized wherever there is a demand in Quebec, or indeed in Eastern Canada. Once it is set up, the Service can handle an almost unlimited number of herds. The Infra-Red Milk Analyzer (or IRMA, as she is already fondly known) can automatically test a milk sample every seventy seconds; the computer can prepare a complete herd analysis in seconds.

(D.H.A.S.) at the Showmart. The New Dairy Herd Analysis Service is primarily for commercial herds and provides assistance in herd management, feeding, breeding and selection.

How does the D.H.A.S. operate? Suppose you have sent word to your agronome, or written the College that you would like to join. Once a month, the area supervisor will visit your farm. He will pick up your milk samples and record the changes that have taken place in the past month. Back at the College, the milk samples are tested for fat, and solids-not-fat, all this data is then fed into the computer. The computer will "remember" what it was "told" last month, and the months before that, and will add this new data to it. In a very few days you will get back a complete herd management report in English or in French.

On pages 10 and 11, you will find a typical report. It shows much more information than we can list here. It provides complete and accurate up-to-date information on every cow in your herd. And, on a herd basis, it provides an analysis of the dairy business operation. It shows, for example, the net profit from milk for the previous twelve months over the cost of feed.

The cost of the Service is about one cent per cow per day. That is a little over $100 a year for a 30-cow herd. To pay for it, your production must increase 100 lbs. per cow. In New York State, the actual average has been four times that.

There is no conflict with the R.O.P. program. Rather, these programs complement each other. Registered herds may be on both. R.O.P. will give you an official, internationally recognized production record of each cow. D.H.A.S. is primarily for commercial herds and provides management data for your personal use. This information is not made public, although group summaries are made so that you can compare your program with the group averages.

As for bookkeeping, there is sursurprisingly little to do. You weigh and sample each cow's milk once a month. You make a note on the barn sheet when a cow freshens, is bred, or is dried off. There are no calculations to do; that's the computer's job. The supervisor on his regular visit checks quality and quantity of feed.

The Dairy Herd Analysis Service is not, however, a magic wand. By itself, it cannot do miracles. But D.H.A.S. does provide the herd management, feeding, breeding and selection, toward the goal of higher production and higher profits.

The Dairy Herd Analysis Service — this is a typical monthly report

COMTÉ	CODE DU TROUPEAU
6	127
COUNTY	HERD CODE

M.JACQUES DUSSAULT
RANG STE MARIE
STE ANNE DE BELLEVUE
P.QUE

RECORDS D'APTITUDES DU TROUPEAU LAITIER
DAIRY HERD PERFORMANCE RECORD

MACDONALD COLLEGE COMPUTING CENTRE
MACDONALD COLLEGE, QUE.

RAPPORT POUR REPORT FOR	PAGE NO
FEV 1966	1
6 M.TOUPIN	
SURVEILLANT SUPERVISOR	

	Vache-moyenne pour mois d'essai / Cow average day for test month	POIDS MOYEN / AVERAGE WEIGHT	VACHE MOIS / COW MONTHS	JOURS DE LACTATION / DAYS IN MILK	PRODUCTION: LAIT - MILK	GRAS FAT	S.N.G. S.N.F	ALIMENTATION - FEEDING: MOULÉE - MEAL: MOULÉE DONNÉE MEAL FED LB	ÉN N.E	FOURRAGES ROUGHAGES: SUCC LB	ÉN N.E	SECS DRY LB	ÉN N.E	PÂTURAGES PASTURE ÉN N.E	GESTION - MANAGEMENT: TAUX D'ALIMENTATION EN FOURRAGE RATE OF ROUGHAGE FEEDING	INDICE D'ALIMENTATION FEEDING INDEX	VALEUR DU LAIT VALUE OF MILK: TOTALE TOTAL	MOINS COÛT D'ALIMENTATION OVER FEED	COÛT DES ALIMENTS / 100 LBS DE LAIT FEED COST/CWT MILK	NO D'HEURES / 100 LBS DE LAIT NO OF HRS /CWT MILK
A	Cow average day for test month	AVERAGE WEIGHT	36	85 %	32.5 LB.	3.7 %	8.8 %	10	37 %	35	32 %	12	31 %	%	2.1	105	$ 1.50	$ .83	$ 2.06	1.0
B	Vache-moyenne pour 12 mois / Cow average for 12 months	10 LB 130	34.4	83 %	12,920 LB.	3.6 %	8.7 %	100 LB 31	34 %	TONNE TON 4.0	20.7 %	TONNE TON 1.8	21 %	25 %	2.4	109	$ 589	$ 338	$ 1.94	0.9
C	TOTAL DU TROUPEAU EN 12 MOIS / 12 MONTH HERD TOTAL				100 LB 4444			100 LB 1066		TONNE TON 137		TONNE TON 62					100 $ 202	100 $ 116	100 LBS DE LAIT/HOMME 1000 LBS OF MILK WORKER	212

	RACE BREED	NO D'ENREG OU D'ÉTIQUETTE D'OREILLE REGISTRATION OR EAR TAG NO	VACHE COW	CONDITION: CODE	JOUR DAY	MOIS MONTH	DONNÉES LE JOUR DU TEST TEST DAY DATA: LAIT MILK LB	GRAS FAT %	S.N.G. S.N.F %	MOULÉE MEAL: DONNÉE FED	REC	NOM DE LA VACHE NAME OF COW	VALEUR DU LAIT VALUE OF MILK: TOTALE TOTAL $	MOINS COÛT D'ALIM OVER FEED $	RAPPORT CUMULATIF AU CUMULATIVE REPORT TO: LACT NO	AGE: AN YR	MO	POIDS WEIGHT 10 LB	JOURS DAYS: SÈCHE DRY	EN GESTATION IN CALF	EN LACTATION	LAIT MILK 10 LB	GRAS FAT %	S.N.G. S.N.F %	VALEUR DU LAIT VALUE OF MILK: TOTALE TOTAL $	MOINS COÛT D'ALIM OVER FEED $	CLASSEMENT COW RATING	CODE LACT
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5	3	1813604	537	1			17.5	4.0	9.1	6	2	RENEE	.84	.21	3	4	9	130	48	212*	295	1360	3.9	8.7	639	398		
6	3	85139M2	542	4	28	1	51.0	3.8	8.9	15	17	PRIDE	2.39	1.37	3	4	6	129	61	14	121	673	3.7	8.8	310	176		

1 AYRSHIRE 5 BROWN SWISS
2 GUERNSEY 6 SHORTHORN
3 HOLSTEIN 7 CANADIENNE
4 JERSEY 8 AUTRE OTHER

1 EN LACTATION IN MILK 5 PLUS DANS LE TROUPEAU LEFT HERD
2 A VÊLÉ CALVED 6 1LE VEAU 1ST CALF HEIFER
3 SÈCHE DRY 7 ENTRÉE AU TROUPEAU ENTERED HERD
4 SAILLIE BRED 8 AVORTEMENT ABORTED

* AFIN D'ALLOUER UNE PÉRIODE SÈCHE DE 60 JOURS LES VACHES DEVRAIENT ÊTRE TARIES A 220 JOURS DE GESTATION
TO PROVIDE FOR A 60 DAY DRY PERIOD COWS SHOULD BE DRIED OFF AT 220 DAYS OF PREGNANCY

* VACHES NON SAILLIES ET EN LACTATION APRÈS 60 JOURS POUR UN INTERVALLE DE VÊLAGE DE 12 MOIS FAIRE SAILLIR AVANT 90 JOURS
COWS OPEN AND IN MILK OVER 60 DAYS FOR A 12 MONTH CALVING INTERVAL BREED BEFORE 90 DAYS

1 EVALUEE ESTIMATED 6 VENDUE POUR PROD LAITIERE SOLD FOR DAIRY PURPOSES
2 MAMMITE-MASTITIS 7 ELIMINEE CULLED
3 MALADE SICK 8 VENDUE POUR AUTRE RAISONS SOLD FOR OTHER REASONS
4 AVORTEMENT ABORTED 9 MORTE DIED
5 CONTRÔLE COMPLETE RECORD COMP

This report - shown above - carries much more information than this brief outline. You may use it as your guide to see where and how you can operate your dairy enterprise so that it is as profitable to you as modern dairy methods and records can make it.

How to read your monthly dairy herd analysis report:

Herd summary top of page:

A **Reading from left to right: Daily Average per Cow for the Test Month**

Production — 85% of the cows in the herd were in milk and produced an average of 32.5 lbs. of milk with a 3.7% fat and an 8.8% solids-not-fat. (S.N.F.)

Feeding — Daily feed consumption per cow averaged 10 lbs. of meal, 35 lbs. of silage and 12 lbs. of hay. The meal provided 37%, the silage 32% and the hay 31% of the total energy or nutrients consumed.

Management — The rate of Roughage Feeding (2.1) is the amount of roughage consumed per cwt. of cow and is given in terms of good hay. A rate of roughage feeding of 3 would indicate excellent quality of roughage and a potential for higher profits.

Feeding Index (105) This is a measure of feed input and production output. An index below 100 indicates underfeeding and an index above 110 suggests overfeeding.

Value of the Milk $1.50 is the farm value of the milk produced per cow and the return over feed cost is $0.83 per cow. These figures are based on the monthly milk and feed prices reported by the herd owner.

The feed cost per cwt. of milk was $2.06 and 1.0 hour of labour was required per cwt of milk produced.

B **12 Month Herd Average per Cow**

(This line does not appear until the herd has been on test for a full year.)

Production — During the previous 12 months the herd had an average of 34.4 cows, which were in milk 83% of the time. Average production was 12,920 lbs. of milk testing 3.6% fat and 8.7% solids-not-fat.

Feeding — The average feed consumed per cow was 3,100 lbs. of meal, 4.0 tons of silage and 1.8 tons of hay. The meal provided 34%, the silage 20%, the hay 21% and pasture 25% of the energy or nutrients for the last 12 months.

Management — The rate of roughage feeding is 2.4 and the feeding index is 109 for the 12 months.

The value of the milk was $589.00 gross and $338.00 net over feed cost per cow for the year.

Over the 12 months, feed cost per cwt. of milk was $1.94, and 0.9 hours of labour was required per cwt. of milk produced.

C **Herd Totals for the Last 12 Months**

This herd produced 444,400 lbs. of milk.

The herd consumed 106,600 lbs. of meal, 137 tons of silage and 62 tons of hay.

The total income from milk was $20,200.00 and the returns over feed costs were $11,600.00

212,000 lbs. of milk was produced per worker per year.

Individual cow records

1 **Aurore** Is a grade Holstein producing 66.5 lbs. of milk with 3.5% fat and 8.7% solids-not-fat. She was fed 18 lbs. of meal but on the basis of her weight, milk production, milk composition and the quality and quantity of roughage fed 23 lbs. of meal would come closer to meeting her requirements. Her daily milk production is worth $3.05 and over feed cost $1.95. She is in her 5th lactation and seven years of age. She was dry 64 days before she calved, has been in calf for 34 days and in milk 125 days in this lactation. She has produced 7,430 lbs. of milk in this lactation to date.

2 **Lise 3** Is dry as of January 15th and has completed a 305-day lactation of 14,610 lbs. of milk with a 3.7% test.

3 **Rosa** Calved on January 14th and was producing 69.6 lbs. on test day.

4 **Denise** Has been in milk for 123 days. The asterisk (*) is a warning that she has not been bred, and this asterisk will remain on the monthly reports until a breeding date is reported. She is currently producing 49 lbs. of milk worth $2.23 or $1.24 over feed cost. The value of her milk produced in the lactation to date is $295.00 or $163.00 over feed cost. Herd owners frequently use this vital information as a basis for culling.

5 **Renée** Has been in milk 295 days and in calf 212 days. The asterisk (*) is a warning to indicate that this cow should be put dry in the next two weeks to provide for a 60-day dry period. There is an indication that the cow is overfed. This type of meal recommendation has enabled dairymen to get the most out of the meal fed.

6 **Pride** Is in milk and was bred January 28th.

THE FAMILY FARM

PUBLISHED IN THE INTERESTS OF THE FARMERS OF THE PROVINCE
BY THE
QUEBEC DEPARTMENT OF AGRICULTURE AND COLONIZATION

Compiled by T. Pickup of the Information and Research Service, Quebec Department of Agriculture and Colonization.

This month in the FAMILY FARM *Section*

PHOTOGRAPHS BY OMER BEAUDOIN

Raymonde Filiatreault looks to see how big the carrots are on her father's farm at Ste-Rose, Laval. Carrots are among the "special crops" for whose loss from severe weather in 1965 the government is paying compensation to farmers in certain counties.

$10 Million Increase In Govt. Crop-Damage Aid In '65

The Hon. Alcide Courcy, Quebec Minister of Agriculture and Colonization, announces that the Provincial Government, in collaboration with the federal Government, has decided to increase assistance to farmers whose crops were damaged by adverse weather conditions in 1965 by about ten million dollars.

Following the federal-provincial drought relief programme announced last September, which concerned farmers in 50 counties in Quebec who had suffered crop losses from severe lack of moisture, a second agreement has just been concluded for the purpose of partly compensating farmers for losses sustained since August 15th as a result of excessive rainfall and early frosts.

The financial assistance made available under this second agreement applies to 69 counties, comprising 44 out of the 50 which had already been designated as having suffered from drought and another 25 that were not included in the first agreement. The new assistance will be in the form of subsidies for the purchase of livestock feed by owners of herbivorous animals and of grants to growers of crops classed as "special": tobacco, strawberries, beans, peas, corn for canning, linseed flax, cucumbers in frames, turnips, carrots, and table beets.

The various new subsidies are based on the following allocations of feed: *¼ of a ton* of feed grain (or the equi-

(continued on page 22)

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

HOW TO REDUCE IMPORTS OF FEED GRAINS

by Phillipe Granger

Henri Potvin of Jonquière stooking Glen oats. Home-grown grain helps to reduce the need for importations from Western Canada.

Grain production in Quebec is not keeping pace with the increase in livestock. This state of affairs leads to constantly growing importations of Western Canadian feed grains. Millions of dollars are thus paid every year by Quebec to the Prairie Provinces and it appears that these purchases from elsewhere are going to continue for a long time to come. They could, however, be appreciably reduced if the growing of grain corn became more widespread in the region of Montreal and the south of the Province.

Results obtained in many trials show that it is possible nowadays to triple and even quadruple the quantity of nutrients yielded by a crop per unit of land. Grain corn ground with the cob contains the same amount of digestible nutrients as oats and can easily be got to yield 3 or 4 tons per acre, whereas one ton of oats to the acre is considered a very fair yield.

Some farmers who started growing this crop several years ago are now harvesting enough grain corn to provide for the needs of their own cattle and even have some left over for sale. It used to be necessary to buy 30 to 40 tons of grain a year to feed the animals on the farm of the Dairy School at St. Hyacinthe. In 1965, they had grain to sell, although there had been no increase in the land under crop nor reduction in the number of livestock.

In the Quebec grain corn contest last year, the ten leading competitors averaged 90 bushels or the equivalent of 4032 total digestible nutrients (T.D.N.) per acre. (An acre of oats yielding 60 bushels would provide 1426 T.D.N.)

In advocating the growing of grain corn where it is feasible to do so, Mr. Philippe Granger does not wish to give the impression that he underestimates the value of alfalfa, which, he says, can yield from 3 to 5 tons or 3600 to 5000 T.D.N. per acre.

He believes that a great many of our farmers can obtain the above-mentioned yields almost every season provided that the land is properly drained or, in other words, provided that the water required by the plants is retained and any surplus of moisture which is harmful to them is removed.

(From "La Terre de Chez Nous")

Lambing time

Oxford lambs and sheep on the farm of Mr. Roy Perrault at Sheenboro in Pontiac County.

If she is to bear strong, vigorous lambs, a ewe must be given all the care and proper food she needs during her gestation period. The approach of lambing time should prompt the shepherd to pay special attention to his ewes. Amongst other precautions, the following possible causes of accidents should be removed: the presence of the ram in the flock, over-crowding the ewes, doors that are too narrow, and feed racks that are too small.

Lambing pens must be in a dry, warm place, protected from draughts. To prevent infections, the floors should be disinfected and covered with plenty of clean litter. As lambing time draws near, the ewe is put into her pen so that she will give birth to her lambs under as normal conditions as possible.

Careful shepherds clip the wool from part of the udder and hindquarters of their ewes to prevent suckling lambs from swallowing wool, which can cause severe and often fatal indigestion. Two weeks before lambing, succulents should be eliminated from the ewes' ration and the amount of concentrated feed should be halved.

It goes without saying that anybody who intervenes in the course of parturition must have thoroughly disinfected his hands and arms beforehand. As soon as a lamb is born, all mucus obstructing its mouth and nostrils and preventing it from breathing freely must be removed. The umbilical cord must be disinfected by being dipped in tincture of iodine. Infra-red lamps have been found very useful for heating lambing pens that are not warm enough.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

Hereford beef cattle on the farm of Mr. J. M. Tremblay of Grande-Baie, Chicoutimi.

THE PRODUCTION OF BEEF CATTLE

The raising of beef cattle is one of the more important and most promising branches of farming in Quebec. As such, it fully deserves the attention it receives from the Department of Agriculture and Colonization.

In view of the constantly growing demand for beef, livestock enterprises of this type should be further developed in Quebec, provided that all the conditions governing their profitability can be satisfied. But beef cattle cannot be made to pay on every farm and in all circumstances.

The Quebec Government is now taking steps to plan agricultural production and will play a supplementary and co-ordinating role. But it is up to the farmers themselves and their organizations to take their own future in hand.

Trends in the beef industry

The importance of beef cattle in Quebec's agricultural economy is steadily growing.

- Sales of beef cattle are adding to farm income.
- The proportion of farm income derived from cattle is increasing.
- Farm income derived from beef in Quebec in 1964 exceeded $80 million.

An expanding market

- The market for beef in North America is growing.
- The population is increasing.
- Canadians are eating more beef: 79 pounds per head in 1964 as compared with 54 pounds in 1940.
- The economy is flourishing.
- The number of outlets for feeder cattle is growing.
- The demand must be met.

Production and consumption of beef in Quebec in 1963

	In thousands of pounds	Number of head
Consumption (1963)	407,966	768,442
Production (1963)	164,700	366,000
Annual deficit	243,266	402,442
Weekly deficit	4,678	7,739

Factors favouring beef production in Quebec

- Markets are plentiful and easily reached;
- Farm credit institutions help to provide capital;
- It is now easier to enlarge farms;
- Community pastures can be established under ARDA programmes;
- Provincial legislation to encourage regrouping of farm lands and purchase of vacant land is now in effect;
- Insemination provides the services of outstanding bulls for a small fee;
- Grassland production has been improved through technical progress, and less labour is needed to raise beef cattle;
- Beef cattle do not require as large an investment in buildings and shelters;
- Large acreages in pasture and hay are becoming feasible especially in Northwestern Quebec;
- Beef cattle help to maintain soil fertility;
- Need for additional sources of income is making itself felt on many farms in Quebec;
- Assistance policies of the Department of Agriculture and Colonization for purchase of beef cattle and transport of animals to abattoirs are designed to encourage beef production.

Factors of success in beef cattle raising

- Wise choice of initial breeding stock for the herd;
- Selection of animals with a view to fast and efficient gains;
- Mating at the right time;
- Proper feeding;
- Good but inexpensive housing;
- Prevention of disease;
- Accurate and up-to-date breeding records.

Quebec farmers will receive a reimbursement of 25 per cent of their 1965/1966 school taxes under the same conditions as those established a year ago. An unofficial translation of the order in council to this effect, as approved by the Government, appears below.

Rebate of School Taxes

ORDER IN COUNCIL
EXECUTIVE COUNCIL CHAMBER

No 78 Quebec, January 19, 1966.

Present: The Lieutenant-Governor in Council

Concerning the reimbursement of 25 per cent of 1965/1966 school taxes to farmers, and by-laws.

Whereas by virtue of section 11 (VIII Finance) of the Grants Act No. 5, 1965, 13-14 Elizabeth II, Chapter 5, there may and shall be appropriated from the consolidated revenue fund an amount not to exceed $5,000,000 to reimburse each farmer of the province or pay on his behalf, 25 per cent of the school tax for 1965/1966 on his farm including his agricultural buildings and his residence erected there-on, all in accordance with the by-laws of the Lieutenant-Governor in Council.

Whereas there is reason to make this reimbursement or this payment and to establish by-laws for this purpose.

It is consequently ordained, on the proposition of the Minister of Education:

1° That, for the purpose of the by-laws adopted by virtue of the present order-in-council, the following expressions shall signify:

a) *Farmer:* any proprietor of a farm exploited as a principal occupation by himself, his family or his children, or by a tenant or farmer who so exploits it; or

any holder or occupant of a farm thus exploited who is the proprietor thereof, within the meaning of the Education Act; or

the proprietors in partnership of a farm thus exploited; excepting in all cases:

1) companies which are proprietors of farms other than those formed by the proprietors of family farms;
2) proprietors of farms exploited for other than agricultural purposes, such as speculations, development of building plots, quarries, camping grounds or trailer parks, tree farms.

b) *Farm:* any immoveable effectively exploited for the purpose of one or more enterprises of an agricultural nature, having an area of at least 10 arpents (8.45 acres) including the agricultural buildings and residence erected thereon.

2° That every farmer is entitled to the reimbursement of 25 per cent of the 1965/1966 school tax on his farm, according to the collection roll of the school board homologated for the current fiscal year;

3° That the Minister of Finance is authorized to pay directly to each farmer the amount of the reimbursement entered with respect to his name on the reimbursement list prepared by his school board and approved by the Department of Education;

4° That reimbursement lists be prepared by each school board in accordance with the instructions and forms supplied by the Department of Education and that they be signed and certified by the Secretary-Treasurer under his oath of office;

5° That reimbursement lists be completed, verified and forwarded by the school board to the General Directorate of Finance of the Department of Education before March 1, 1966, or during the month following approval of the school board's budget by the Department of Education;

6° That each of these lists, duly approved by the Department of Education, be forwarded promptly to the Minister of Finance so that he may make the payments to the farmers who are entitled to them, by means of a cheque payable jointly to the farmer and to the school board.

Jacques Prémont,
Clerk of the Executive Council

Cold Storage Of Chrysanthemum Cuttings

Experiments show that cuttings prepared for storage do better when 'stripped' — that is when all foliage except small leaves surrounding the growing point are removed—and when stored in polyethylene bags at 28° to 34°F.

C. L. LOCKHART and G. S. SWAIN

Premature development of flower buds of many varieties of garden chrysanthemums when propagated by stem cuttings greatly reduces production of flowers and foliage. Methods of vegetative production to circumvent this difficulty are therefore of great importance to florists since stock plants of many varieties of garden chrysanthemums cannot be maintained under glass in a vegetative state. Some varieties can be propagated from stool cuttings of plants left out all winter. However, many varieties are susceptible to winter injury and an alternate method of propagation is required.

In exploratory work at Kentville with stool cuttings taken from field-grown stock plants potted in peat pots and overwintered in a cold frame, only a third of the cuttings survived and produced good plants. Some workers report that rooted chrysanthemum stem cuttings can be safely stored for 5 weeks at 33°F. In our investigations we found that stool cuttings having all their foliage and stored in polyethylene bags at 35°F. became severely rotted within one month. We also discovered that removing excess foliage extended the storage life.

In more extensive tests, we studied the effect of fungicidal treatments, storage temperatures and the removal of foliage

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on the storage life of chrysanthemum fall stool cuttings. We prepared stool cuttings of Kentville seedling 6-56 for storage in early November. Before digging, we cut back the current year's growth to expose new stool growth and cut the stool cuttings that were 3 to 4 inches long. Where the foliage was removed except for small leaves surrounding the growing point, these are referred to as *stripped* cuttings, and those having no foliage removed are *unstripped* cuttings.

The cuttings were divided into bundles of 25 and each bundle was placed in a small polyethylene bag pulled close with string and metal rim tags and stored at 28°F., 32°F., 34°F., or 37°F. After 6 months, the cuttings were removed from storage and planted in peat pots in a standard potting soil mix in a mist propagation bed to be rooted. After 2 weeks they were removed from the mist and subsequently planted in the field to follow their development.

Our research revealed that unstripped chrysanthemum stool cuttings stored from November to May were severely rotted with most having dead growing points. Few grew in the mist propagation bed and none produced normal healthy plants. On the other hand, we found that most of the stripped cuttings stored at 37°F. had rotted tips (see Figure) and did not produce terminal growth in the mist propagation bed but a few weak laterals often grew from this type of cutting. When partial rotting occurred only on other parts of the cutting, normal healthy plants were usually produced. The results in the accompanying table show that the temperatures from 28 to 34°F. were much more favorable for the storage of chrysanthemum cuttings with most of them producing normal terminal growth. More cuttings were partially rotted at 32 and 34°F. than at 28°F. But these rots had little effect on the survival of the cuttings and subsequent development into normal plants.

Several fungicide treatments such as Erad (phenyl mercury acetate) field sprays prior to taking the cuttings in the field or treating the cuttings with Thylate dip or dust prior to storage had no effect on the development of storage rots or subsequent development of the cuttings into mature plants.

In one experiment we found that cuttings stored at 28°F. were injured when, on five occasions, the temperature dropped to 22°F. for 2 to 4 hours. These injured cuttings were badly dehydrated and shrivelled but 58 per cent produced normal healthy plants.

These experiments show that chrysanthemum stool cuttings dug in the fall produced normal flowering plants following 6 months' storage in controlled temperatures of 28°F. to 34°F. In preparing cuttings for storage, it is recommended that all foliage except small leaves surrounding the growing point be removed and that the cutting be stored in polyethylene bags at 28°F. to 34°F.

PERCENTAGE SURVIVAL AND TYPE OF GROWTH OF CHRYSANTHEMUM STOOL CUTTINGS WITH EXCESS FOLIAGE REMOVED AND STORED AT VARIOUS TEMPERATURES

Temperature	Type of growth					
	Terminal		Lateral		No growth	
°F	1963	1964	1963	1964	1963	1964
28	99	58[1]	1	42	0	0
32	94	95	5	5	1	0
34	86	97	11	3	3	0
37	0	49	77	51	23	0

[1]Freezing injury at 28°F.

Messrs. Lockhart and Swain are specialists in storage diseases, and ornamentals, respectively, CDA Research Station, Kentville, N.S.

A PLANT ROOT'S GRAVITY SENSOR

The tip of a plant root is covered by a "cap" the function of which is apparently protective but has been the subject of some disagreement. It has been thought that the cap may regulate growth rates. Suzanne Groves, at the University of Oxford, found that it was possible to detach the root-caps of maize and barley, leaving the underlying meristem (growing tissue) intact. A team including B. E. Juniper, also at Oxford University, and Bruria Landau-Schachar and L. J. Audus of Bedford College, London, went on to study the growth behaviour of these "decapped" roots.

The botanists found that the rate of growth was not dependent in any way on the presence of the root-cap. A decapped root is in fact no longer able to sense gravity, and will grow in any direction for up to 30 hours. During this time, however, the exposed "quiescent" tissue (which is quiescent as long as it is covered) forms a new cap. The time this replacement takes depends on temperature and also perhaps on the age of the plant — younger roots seem to replace their root-caps more rapidly. The decapping and replacement process has been repeated identically on the same root-tip, showing that no damage is caused by this treatment.

(From "New Scientist", Vol. 29, No. 477)

STILL TOO MUCH FAT

More hogs miss the A grade because of just a little too much fat, than for any other single reason. This is pointed out once again by the latest semi-annual hog carcass survey conducted by the Canada Department of Agriculture, which shows that nearly 93% of all B hogs could have been A's if they had been sent to market with less finish. A year ago, the comparable figure was 90%.

QUEBEC SUGAR BEET GROWERS WERE THE BEST PAID IN 1964

Quebec sugar beet growers who sold their 1964 crop to the Provincial refinery at St. Hilaire received higher prices than were paid to growers by refineries in Ontario, Manitoba, and Alberta in that year. According to figures presented by the Quebec refinery, the prices were as follows Quebec, $16.21 per ton; Ontario, $12.64; Manitoba, $14.06; Alberta, $15.89.

THE COOLING OF CREAM

A recent inquiry showed that, in the Province of Quebec, 39% of the dairy products shipped to processing plants is delivered in the form of cream and that this cream comes from 40% of all the producers. One is led to conclude from these figures that producers of cream are responsible to a considerable extent for the quality of our butter; hence the insistance on the need for proper keeping of cream by means of rapid cooling to a low temperature It is impossible to manufacture a high-grade dairy product from primary materials of poor or doubtful quality.

All steps necessary to ensure clean and hygienic milking and handling of milk should of course be taken; but there are still too many dairy farmers who pay little or no attention to the cooling of cream before it is shipped. Such neglect inevitably leads to rapid multiplication of bacteria, very marked acidification, and often to development of bad odours.

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

THE BETTER IMPULSE . . .

News and Views of the Women's Institute of Quebec

SEMI-ANNUAL Q.W.I. BOARD MEETING

Enthusiasm and friendship marked the Semi-Annual Board Meeting held in the Y.W.C.A. in Montreal. Attendance was good and interest high in the topics under discussion.

Our President, Mrs. J. Ossington, reported on the many meetings she has attended in her office, and on the graciousness with which she has been met. She stressed the importance of making the W.I. known as a group of knowledgeable and unbiassed citizens, with encouragement and kindness to all.

We have read with interest, the articles in the Journal by Mrs. McGibbon, 1st Vice-President, about the ACWW Conference in Dublin. It was a further pleasure to hear Mrs. McGibbon tell in person of her attendance there. The theme was "Co-operation at all Levels" — an important theme in Canada as elsewhere. An ideal for all mankind is to strive for concord as opposed to strife. The choice of the charming and capable Mrs. Aroti Dutt as ACWW President was welcomed by all. Pennies for Friendship continue to be the only financial support of ACWW and our continuing contributions are needed and requested. It was noted with satisfaction that the Lady Aberdeen Scholarship Fund has reached over $72,000. The fund is now closed, the interest on this amount being sufficient to provide one main scholarship in nutrition, and several smaller, short-term scholarships. Further contributions to the Fund will be accepted but there is no longer the urgency to do so. Attention now will focus on a new Coupon plan, #390, for use in Columbia, South America: further details on this new project will be available later.

Considerable time was spent on discussion of Centennial projects. Reports were heard on projects already undertaken, and many suggestions of possible activities given. A list of centennial projects for individual and for branch or community action has been sent by the QWI Office to each branch, and by now most branches will have plans in operation. Members were asked to remember that EXPO '67 is a Canadian Centennial Project, and as such deserves our support. We can promote the Fair and Canada by giving Expo tickets as prizes, by selling tickets, by providing lodging for QWI visitors from other lands or other provinces. A committee, chaired by Mrs. Westover, Provincial Convener of Citizenship, assisted by Mrs Knox Copping, County President, Montcalm, was established to find out if our membership would consider overnight accommodation for individual WI members, or WI chartered bus tours. Mrs. Ossington has been a member of the Agricultural Board of Expo, for some months, and has been contributing the rural women's point of view to their deliberations. A motion was passed by the Board authorizing Mrs Ossington to officially represent the QWI at Expo meetings, with the request that she keep us informed of further developments, or projects that we might be able to undertake.

Mrs. Philip Matheson, FWIC President

Panorama FWIC — a collection of slides of Provincial Geography and WI in action — is under revision. Many members offered to send apporpriate slides to Mrs Westover or to Mrs Palmer who are responsible for the Quebec section.

Christmas Stockings were under discussion. This is a Canadian Save the Children Project, and any branch wishing to send stockings may do so. New instruction sheets should be followed, with a view to reducing the amount in a single stocking, and the making of more stockings — this would share the project with a greater number of children.

The Annual Joint Conference with members of the Montreal Council of Women, with whom QWI is affiliated, was again of outstanding interest. Mrs. A. W. D. Swan, President of the Council, was co-chairman with Mrs. Ossington. Mrs. R. B. Winsor Vice-President of the Council, spoke on Health Services in Canada, outlining projected government plans, and noting the shortage of medical help which will prevent full implementation of medical plans for some years. Study of the Hall Commission Report, and of health plans would be worthwhile for all women's groups. Mrs. G. H. Guest, chairman of Education of the Council, spoke on Operation 55 and regional schools as they function in the city; and on the testing of subject promotion in city schools, and on the increase in vocational schools in urban areas. Mrs. W. V. George, Chairman of Consumer Education of the Council, spoke on this topic — on the need to develop a consumer who is a wise buyer, an intelligent user of goods and services, a good manager and spender of money. Mrs. H. E. Palmer, Convener Publicity QWI spoke on Centennial Projects of the WI. Mrs G. McGibbon gave details of the QWI Drama project which is arousing great interest wherever it is tried. Miss N. Holmes, Secretary, outlined the new style Leadership Course which was initiated last year. This year's course will be May 24-27. The conference closed with an enjoyable tea hour.

The Nominating Committee was appointed to include these counties — Richmond, (chairman) Gaspe and Megatnic. Offices open are President, 1st and 2nd Vice President, Treasurer, conveners of Home Economics and Citizenship. All these are completing a first term of two years; they may be nominated for a second term of two years. Other names may be submitted to the Nominating Committee.

The Resolutions Committee is to be chaired by Stanstead County, assisted by Argenteuil and Abitibi. All resolutions should be sent to the County President of one of these.

Branches and Counties are again requested to arrange for the printing of their own programs, as was done last year. The QWI Office can supply covers for the programs, but cannot do the printing.

Annual Provincial Convention is set for June 20-24 at which time Board members and delegates will meet again.

Marian E. Palmer
Provincial Convener Publicity

FROM THE OFFICE

More Pen Pals wanted: From Mill Creek (S. Waterloo) WI, Ontario. Would be nice to correspond with Waterloo or Cowansville, but not essential. These are the ladies: Mrs. Wm. Watkins, R. 6, Galt, Ont. — born in Wales but has lived in Canada over 30 years. Mrs. T. D. Cowan, R. 3, Galt, Ont. — always lived in that area, interested in history (particularly Canadian).

THANK YOU

To the many friends in the Quebec Women's Institutes who so kindly remembered me at the time of the Semi-Annual Board Meeting. That lovely card, with its cheery message was a real tonic, bearing as it did the familiar names of those with whom I was once associated. They brought back pleasant memories of companionship enjoyed as we worked together in service to the QWI. And then the beautiful plant, one of the loveliest pot of 'mums I have ever seen. All this such a surprise, but a pleasant one I can assure you. My warmest thanks to you all.

Frances Taylor

W.I. GOODWILL TOUR

(Continued from Jan. issue)

Ontario spoons with crest were presented to some of the officers of East Angus and a petit point picture to Mrs. Ossington and petit point pin to Mrs. Coates, made by Mrs. Walter Adams, member of the Irwin WI, Kent. Each lady was presented with a large cake of maple sugar made by the Compton Co. President, Mrs. Sterling Batley. Mrs. Ossington in her remarks stated, that in spite of rumors, the Quebec women stand together for Home and ountry and invited the Ontario ladies to return in 1967.

On our arrival at Quebec City, Mrs. Irwin was met in the drawing room of the Auberge du Blvd Laurier by Mme Claude Laliberté on behalf of the Cercle de Fermières. The Quebec City ladies extended their warmest welcome to our ladies. We were also welcomed by the Home Economist Miss Suzanne Auger, and Mr. R. Barrette, agronomist and Director of Handicrafts, Dept. of Agriculture. There is a membership of 42,000 in the Cercles de Fermières which are affiliated with ACWW. We were entertained by Mme. Laliberté and Miss Auger with films on "Folk Songs of Quebec", "Publicity Bureau", "spinning of wool and flax, and murals, the modern art of today. Mrs. Geo. Kerr, Dresden, Ont. demonstrated block printing and presented Mrs. Laliberté with samples of her work. Refreshments of sandwiches, cake and coffee were served.

The following morning we drove to St. Anne de Beaupré and had lunch, after which we toured the city, visiting the historical monuments and Plains of Abraham. Our guide told us that they are teaching English as well as French in grades 2 and 3 in Quebec.

Oct. 7th we drove to Montreal where we met Miss Norma Holmes, Prov. Sec. at Macdonald College. We were taken through the Handicraft Dept. where Miss F. Wren displayed their work and a tour of the grounds with Barry Stephens, Pres. of the Golden Key Society who explained the different buildings.

Sir Wm. Macdonald, a bachelor, built both the college at Ste. Anne de Bellevue and at Guelph, the one at Ste. Annes being built in 1905. He brought all the furniture for his home from Scotland. When he died his heirs the Stewarts continued to carry on his benefactions to the College. We were shown the library, and the classrooms, the Assembly Hall where the QWI holds its annual conventions. There are over 1000 students and the girls outnumber the boys 4 to 1. A china floral piece of Ontario trilliums was presented to Miss Holmes.

The following morning we journeyed to Lachute where we were greeted like royalty by the Argenteuil Co. president Mrs. C. Hall and several of her executive at the United Church as their guests, to a delicious luncheon. There were fifty members of Argenteuil Co. who introduced our ladies in groups and seated them at tables for luncheon. Mrs. Hall opened the luncheon with the WI Grace and, although it was raining outside, the welcome inside was so warm and sincere that we forgot about time and enjoyed every minute. Mrs. Baugh, who is 83 years old is still a very active WI member.

Mrs. Geo. McGibbon, 1st Vice-Pres. of QWI had just returned from Ireland where she attended the ACWW Conference and in her remarks she started that there has been so much in the press regarding the unrest in Quebec which is untrue. The theme of the Conference in Dublin was "Working Together". Mrs. Irwin presented Mrs. McGibbon on behalf of the Ontario ladies. with a copper tooling picture depicting the handicraft work of the Sun Parlor of Ontario and made by Mrs. Edgar Wilcox, Cottam, Essex Co. Petit point was presented to Mrs. Hall.

We as WI members came home with a better understanding of Quebec and have appreciated having the experience of meeting our Quebec WI sisters and hope that they may be able to come to Kent and Essex as our guests in the near future.

Mrs. Maurice Irwin,
Prov. Board Director, FWIO, Sub. 23

Mrs. G. Sisco, Publicity Conv. for Stanstead County adds this bit to Mrs. Irwin's account: "What better way to participate in International Year than to travel! Eighty-two members of Institutes in Southwestern Ontario chartered two buses in Chatham and took to the road. Mrs. Maurice Irwin of Chatham planned and organized the trip, and deserves much credit for a job well done, and for care and personal attention given the passengers and to the members she contacted en route. One of the passengers was Mrs. Grace Kerr, past president of Kent Co. Ont., member of Quinn Branch, who at 87 years of age enjoyed the trip and kept up the full pace too . . .

"It was a great pleasure to meet and be with this group, thoughtful and friendly members from sister Institutes in Ontario."

The Month With The W. I.

ABITIBI EAST: MATAGAMI attended meeting of local, provincial and federal representatives concerning Indian Affairs, and will assist in future projects; talk on publicity by Mrs. Gilman; committee of Mrs. Viljoin and Mrs. Harrison to meet with school principal to consider sponsorship of public speaking or spelling competitions, or a bursary.

Students of Indian Reserve school at Winneway, where QI has branch Institute.

ARGENTEUIL: BROWNSBURG acted a play entitled "Twas the Night before Christmas"; a special on the Christmas Tree was a knitted article from each member to be given to needy children. DALESVILLE-LOUISA gave their Christmas donations to a worthy cause to the Lady Aberdeen Scholarship Fund. JERUSALEM-BETHANY had guest Mrs. H. Kerr give a demonstration on bow-making and gift wrapping; each member to make a quilt block for next meeting. LAKEFIELD were entertained by Mrs. H. Graves of Lachute; interesting pictures shown by a member of her trip to Western Canada. PIONEER donated to Montreal Children's Hospital; cookies and candy given to Retarded Children School in St. Andrew's: Mrs. G. Rogers read articles on "Christmas Symbols around the World", "The Ugliness of Christmas" and "All About Christmas Greenery". UPPER LACHUTE EAST END: contests on Christmas Carols and jumbled words; sing-song with Mrs. L. Hume accompanying on guitar. Most Argenteuil Branches have been holding serious discussions on helping to build a Senior Citizen's Home, and it is hoped that this worthwhile project will soon be underway. Same branches donated to the Lachute High School Annual, The Lampada.

CHATEAUGUAY-HUNTINGDON : AUBREY-RIVERFIELD : Mrs. R. Templeton won the dainty box of finger towels and soap donated by Mrs. Wolodarsky. DEWITTVILLE held a social evening at the home of Mr. and Mrs. R. Greenbank, when husbands and members of Dewittville Youth Association were entertained; Mrs. N. McLean reported on Semi-Annual; Mrs. H. Greig demonstrated the making of fancy bread; sold refreshments at an auction sale; Christmas baking sent to shut-ins. HEMMINGFORD held discussion on Christmas Stocking Project; Mrs. R. Lee gave complete review of Gift Coupon #367 and its importance to W.I. work in the North — coupon purchased; Mrs. Lee also gave complete explanation of the ticket-selling campaign for Expo '67. HUNTINGDON heard reading from "Canadian Folk Lore"; Mrs. Beal, school librarian gave demonstration on Book Binding; quiz using words ending with "age". ORMSTOWN: demonstration of the many different uses for Christmas cards; used cards collected; held cookie contest and sale of same.

COMPTON: BROOKBURY: Mrs. S. Batley. County President, gave monthly CKTS Radio Broadcast, telling of the Bus Tour of Ontario Institutes through the Townships, and of letters later received from some; donations given to Northern Extension Fund, Salvation Army, local cemeteries, and needy persons; sold some cookbooks for Stanstead North W. I.; bought T. B. seals. COOKSHIRE: Mr. W. Hamilton showed slides of Prince Edward Island, and of a trip from Kitimat, B.C. to Cookshire; talk given by Mrs.. E. Schmidt on the Maplemont Home for Youth; donation made to the Home. EAST ANGUS members each brought a decorated Christmas basket, which were filled and sent to sick and shut-ins; donated to C.N.I.B.; Mrs. Bernard and Mrs. H. Westgate, members born in Ireland, told interesting facts and anecdotes of places they had lived in Ireland; renewed Federated News; donated to Westbury 4 H Club; refreshments provided for party for children who made Hallowen collection for UNICEF; Mrs. Hayes, Citizenship Convener, reported on the awarding of the Nobel Peace Prize, 1965, to UNICEF. EAST CLIFTON collected used Christmas cards for Red Cross; over 60 Christmas bags were made and given toward the Community Christmas Tree;

Mrs. J. Walker, Marcil WI, holding her prize-winning crocheted bedspread.

held paper bag auction and donated proceeds to Pennies for Friendship and to the Bursary. SAWYERVILLE: article read from Home and Country-telling of the tour of Ontario W. I. members through Quebec; selected play for W.I. Drama Contest; collected for C.N.I.B.

GASPE: DOUGLASTOWN made Christmas corsages and cards, and exchanged them as roll call; social evening held and games played. GASPE named a favourite teacher as roll call; Thanksgiving Tea was most successful, both socially and financially; each member brought a friend to Christmas meeting; gifts sent to Sanitorium. WAKEHAM enjoyed a social evening, with games, and an exchange of gifts; knitted articles and other clothing sent to needy family, and gifts sent to elderly persons.

Mrs. McGibbon & Mrs. Wallace examine 1st and 2nd prize afghans

GATINEAU: AYLMER EAST held social evening with games enjoyed by all; one game was Bingo with names of trees used instead of numbers; silver

(continued on page 20)

Miss E. Graham, QWI Conv. of Education submits the following article with this comment: "This article, while stressing the importance of a school library, should also focus attention on our homes. Here an interest in books begins for the young child fortunate enough to live in a home where books are a part of every day life. For those no longer of school age, books and magazines can be a never ending source of information and enjoyment."

THE ROLE OF THE LIBRARY IN THE ELEMENTARY SCHOOL

Among the many reforms recommended by the Parent Commission none is more important than the proposal that every elementary school should have an adequate library.

At one time the chief function of education was to preserve the knowledge of the past and pass it on to the next generation. We have finally realized that teaching children to memorize facts will not prepare our boys and girls for the ever-changing world of the present or the future. The most important skill that we can teach our children is that of critical thinking. We must encourage our children to find answers for themselves and the library is the key to the vital and stimulating world of books where the mind of a child is opened to the excitement of our modern world, to the adventures of the past, and to the anticipation of the future —

What a child reads determines how he thinks and what he will become. The more varied the selection of books read and enjoyed by each child, the more flexible his method of thinking and the greater his understanding of the world in which he lives.

The fastest progress in a library development programme occurs when one of the first steps in the securing of the services of a professionally trained librarian. In a district where several schools are included in the planning, a library consultant or supervisor should be appointed to help the school librarians in their book selections, their processing and in planning the most effective library programme for the district.

The professional guidance of a consultant does not reduce the importance of having a librarian in each school. When we consider that it takes about one hour to process a book, a good programme in any school of over two hundred pupils needs a full time librarian. Do not permit anyone to make you believe that a teacher, who happens to have several free periods a week, will be able to act as the school librarian.

The librarian needs to be as free of routine tasks as possible. She should not be required to take duty in the playground during lunch hour. At this time the library should be open or she should be having a meeting of the Library Club. Adequate help with typing, checking of materials, processing of books and shelving will help ensure the best professional use of time in working with children and teachers. Teachers at every level need the collaboration of a librarian who knows reading materials of all kinds and who is aware of the needs of children.

Every effort must be made to keep the library door open. Ideally, it should be possible for any child or any teacher to come in at any time to find the answer to a question, get additional information on a topic under consideration, take out a book to be read or satisfy some personal or classroom need. Only thus can the library become an extension of the classroom. The school as a whole needs a climate that encourages reading.

Goals in planning quarters should include provision of space for class use, for small group use, and for individual study and browsing. Throughout the school day we provide too little time for reading for pleasure and the library can be an important setting for growth in this area.

Only with a well-developed programme can pupils cultivate life-time habits of reading. On every count, it is the library that makes the difference. Every child needs the opportunity to select books that appeal to him and a place to which he can turn for sympathetic guidance in book selection. The gifted student, in pursuit of excellence needs books that challenge him to probe more deeply and then compare and evaluate. The culturally deprived child needs reading materials within his reach which help him relate to his expanding world. The insecure child needs stories and hero tales that give him confidence and attainable goals.

"Let us not cheat our children. They deserve the chance to discover what fun it is to read. They need to know all the rich varieties of our language, and the power of human imagination.

If there is any hope for the future, our children must not be denied their literary heritage. Imagination is the root of progress in any age. The world of reality is not sufficient in itself. Good literature is no substitute for living, but it can add immeasurably to the richness of living".

Aileen Bryerton
Supervising Assistant
Laurenvale Protestant Schools

Month with the W. I.

(continued)

collection used to buy treats for patients at St. Jude's Hospital, Aylmer. EARDLEY: guest speaker, Mr. Norman Robson, vice-principal of St. Patrick's High School in Hull, and on Regional School Board, spoke on "Parent — Teacher Relationships". KAZABAZUA celebrated their 29th birthday by reading some of the minutes of the organization meeting in 1936. WAKEFIELD : Mr. Kenneth Main, guest speaker, spoke on I.C.A.O.; some of the handicrafts which are to be displayed at Lapeche Library Inc., were shown at the meeting; treats sent to patients at Gatineau Memorial Hospital. WRIGHT: Mrs. F. Thayer gave two readings — "Health Notes and Pills" and "The Catchall"; pamphlets distributed on "The Story behind your Shoes"; donated to Quebec Service Fund, and to Cup-of-Milk Fund.

MISSISQUOI: COWANSVILLE heard description of grafting trees, article on new methods of education, and description of hospital work in Africa; talk given on attitude toward other races, and a review of the book "Sir Wilfrid Laurier; roll call answered by describing experiences with birds in winter; enjoyed contest on recognition of birds from figurines. DUNHAM donated to School for Retarded Children. FORDYCE held quiz on ACWW., sold handwork made by members; sent large parcel of magazines to Aklavik, W. T., N.W.T.

MONTCALM: RAWDON enjoyed carpet bowling, with some members playing, and others had fun watching their first attempt at the game; provided fuel for a local needy family.

PONTIAC: All branches in County bought UNICEF Greeting Cards. BRISTOL donated home baking to Ade Memorial Hospital, were favoured with a piano and accordion duet; bought T. B. seals. CLARENDON answered roll call by repeating a verse of a Christmas Carol; collected Pennies for Friendship; gave toys and treats for patients and children at two local hospitals; FORT COULONGE heard Christmas story "Song from Heaven; gifts to shutins; donations to TB seals and to Ade Memorial Hospital. QUYON donated to Quyon Christmas Parade and Party; donated to TB Association; contest on the provinces. SHAWVILLE donated food baskets to needy families; medley of Christmas songs, sung by three young boys was greatly enjoyed; each member given material to make a Christmas corsage with interesting results; gifts were pulled from gaily decorated chimney. WYMAN sent boxes,

books and cards to elderly and to shut-ins; donated to Auxiliary of Central Hospital.

RICHMOND: DENISON'S MILLS held card party with proceeds going to Dixville School for Retarded Children; Mrs. C. Carson presented school prizes for A. D. S. High School; donated to County Funds and to UNICEF; used Christmas cards collected to be sent to Limbless Servicemen; mystery parcel won by Mrs. W. Brock. GORE had as guest speaker, Mrs. Briggs, Home Economics teacher at St. Francis High School; roll call gave suggestions on how to make the most of vitamins found in fresh fruit and vegetables; held contest on articles made from "left-over" material, with articles sold, netting good sum; used Christmas cards made into scrapbooks, sent to children's home.

RICHMOND HILL held a contest on white bread, prize going to Mrs. W. Bailey; gifts sent to 4 children at Dixville Home who had January birthdays; fruit sent to convalescent friend. RICHMOND YOUNG WOMEN enjoyed social evening: one of the games played had all members pile their shoes in the middle of the room, then were blindfolded and each tried to find her own shoes. SHIPTON sent proceeds from recently held card party to Community Goodwill; held contest on most attractively wrapped Christmas gift, with prizes won by Mrs. D. Gallup and Mrs. A. Paige; each member gave gift for Maria Goretti Home for Crippled Children in Danville, also sent candy. SPOONER POND: for roll call each member brought a loaf of bread, yeast or fancy, with breads auctioned and netting a good sum; donation of thread was received and sold; started working on Christmas Stocking project; collected Pennies for Friendship; played Bingo with prizes won by Mrs. C. Johnson and Mrs. V. R. Beattie.

ROUVILLE: ABBOTSFORD: White Elephant table most interesting and profitable too; clothing sold with proceeds to the treasury; gifts sent to children in Butter's Memorial Home; Christmas Carol singing and pleasant social time at the tea hour was enjoyed.

SHERBROOKE: ASCOT brought gifts for shut-ins; "Christmas Eve", a poem written by a local senior citizen was read and enjoyed; donated to 4 H Calf Club, local SPCA; oranges sent to Grace Christian Home. BELVEDERE: each member turned in a Christmas decoration to send to Grace Christian Home; purchased Coupon #367; donated to Quebec Service Fund, Pennies for Friendship, School for Retarded Children; contest on decorated cup

cakes, with prizes. BROMPTON ROAD catered for a supper. LENNOXVILLE: a poem "Travelled's Tales" and an article on Canada's Christmas Tree Trade were read; successful sewing and tailoring course held; each member brought a gift for a cancer patient; donated to hot lunch fund at local school.

HIGH HUMIDITY FOR FRESH VEGETABLES

A series of tests by the National Research Council of Canada had resulted in a new way to store vegetables for an appreciable period without severe loss in weight or quality. The vegetables were found to keep much better if they were stored at a uniformly low temperature and high humidity.

The room in which the vegetables are stored is of a jacket construction, around which a stream of air is circulated to remove the heat from the storage volume (see diagram). Air is not circulated through the vegetables; they are allowed to become almost dripping wet so that the humidity is as near saturation as possible.

In these tests, apples and celery were stored satisfactorily at relative humidities between 95 and 100 per cent at temperatures slightly above freezing point. Similar tests with carrots, which show a marked susceptibility to moisture loss and subsequent withering, showed that they could be stored for much longer periods than those of current commercial practice. After nine months of storage, the loss by decay was only 15 per cent in the very high humidity conditions. At present storage of carrots for more than six months is limited by the decay factor, which usually exceeds 50 per cent.

Tests have begun on the storage of other vegetables by this technique. Early results indicate that green and red cabbage can be stored at a temperature of 0 to 1°C at 98 to 100 per cent relative humidity for about five months with negligible losses. Even after eight months, the losses through trimming away the withered leaves ranged from 15 to 30 per cent.

(From "New Scientist", Vol. 29, No. 477)

$10 MILLION INCREASE

(continued)

valent in hay) per unit of herbivorous livestock wintered in 1965-1966 in 14 of the 25 counties that were not eligible in September, namely: Arthabaska, Brome, Chambly, Drummond, Iberville, Frontenac, Laprairie, Lotbinière, Mégantic, Missisquoi, Richelieu, Shefford, Verchères, and Yamaska. (This is a federal-provincial subsidy).

⅛ of a ton of feed, on the same basis, in the other 11 counties that were not eligible in September: Bagot, Compton, Jacques Cartier-Laval, Nicolet, Richmond, Rouville, Saint-Hyacinthe, Saint-Jean, Sherbrooke, Stanstead, and Wolfe. (This is entirely a provincial subsidy).

An additional ⅛ of a ton, on the same basis, in 44 of the 50 counties already designated in September, provided that the amount of the initial and the subsequent allocations does not exceed one ton per animal unit. (This proviso renders the remaining 6 of these 50 counties ineligible for the additional allocation, namely: Chicoutimi, Lake St. John, Jonquière-Kénogami, Roberval, Saguenay, and Pontiac, since they had already been allocated one ton. (This is a federal-provincial subsidy in 25 counties, and entirely provincial in 19).

The government allocation of feed is in proportion to the reduction in forage and grain crops attributable to adverse weather conditions in 1965. In the case of special crops, the assistance is based on the cost of producing the crops and is in proportion to the damage caused by excessive rainfall and early frosts in the fall.

This additional assistance of $10 million brings the total subsidies to Quebec farmers for crop losses suffered in 1965 to about $23 million, i.e. $21 million for the purchase of feed for herbivorous livestock and $2 million for damage to special crops.

The cost of these subsidies is to be shared by the two governments, approximately $10 million being provided by the federal government and $13 million by Quebec.

SEED FARM *(continued)*

Budget For A 120-Acre Commercial Seed Farm in Quebec

Land : 250 acres @ $150	$37,500
Equipment :	
2 tractors	7,000
disk harrow	550
smoothing harrow	100
plow	600
seeder	1,180
packer	220
wagon	250
sprayer	450
chopper	1,290
swath turner	350
fanning mill	1,000
carter disc	600
velvet rolls	630
seed treater	415
conveyors	1,000
combine	3,155
swather	2,100
Total Inventory	58,390
Expenses :	
Taxes	885
Insurance	80
Mortgage Payment	3,500
Operating expenses :	
Labour — operator	4,000
" helper and casual	3,000
Gas, ail, grease	800
Bags	460
Fees	187
Electriciy	200
Fuel	200
Seed	335
Fertilizer	1,910
Chemicals	330
Depreciation on machinery (10%)	2,089
Repairs and upkeep (Bldgs. & Mach.)	600
Total Expenses	18,786
Income :	
Timothy : 105 acres @ 275 lbs. = 28875 x .40	11,550
Clover : 35 acres @ 140 lbs. = 4900 x .60	2,940
Cereals : 66 acres @ 40 bus. = 2640 x 2.00	5,280
70 acres @ 10 bus. = 700 x .75	525
Subsidy of 20¢ per bushel on 1400 bus.	280
Gas tax refund — 2,000 gal. @ 15¢	300
Gross Income	20,875
Expenses	18,786
NET INCOME	2,089

IN THE APRIL ISSUE:

- **Quebec's Provincial Seed Farm**
  by W. W. Keeler
- **Festive Breads of Many Lands**
  by Marilyn Findlay
- **Terrace Bank Farm — a success story**

How much does it cost you to feed your calves milk?

How much extra money could you make if you sold *all* of your milk?

Figure it up. Then see your Purina dealer and let him tell you how much you can save by feeding Purina Nursing Chow.

Just 25 pounds of Nursing Chow replaces 250 pounds of milk.

Purina Nursing Chow is an easy-mixing milk product high in energy, fortified with vitamins and minerals plus a powerful antibiotic to guard against scours. And it stays in suspension—won't settle out.

Purina Calf Startena—a companion product to Nursing Chow is highly palatable and helps calves gain fast. In fact, Holstein calves fed this dry ration according to the Purina program have averaged 320 pounds at 4 months of age.

Decide now to sell *all* your milk this winter. Raise calves on Purina Nursing Chow and Purina Calf Startena—the team that's research-tested for fast, economical gains. Your Purina dealer will be glad to outline Purina's calf program for you. See him today!

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DAIRY FACTS

by Dr. J. P. Everett,
Manager, Purina Dairy Research.

A recent University of Kentucky study disproves the old tale that a calf must be taught to eat a dry calf starter.

In the university's trial, calves which had no coaching performed just as well as calves which had dry starter placed in their mouths twice daily.

We have noted similar results in experiments with Calf Startena at our Gray Summit, Mo., Research Farm. We've found that you don't have to teach calves to eat calf starter if you:

1. Feed a high-quality palatable ration (Purina's is).
2. Offer it in small amounts initially to insure fresh feed, feeding what's left over to older heifers.
3. Decrease the amount of Nursing Chow fed in the fourth and fifth weeks, before Nursing Chow feeding is terminated.

Limit Period of Feeding Nursing Chow

Surprisingly, surveys show that many dairymen feed a milk replacer until calves are six to eight weeks old. Although calves undoubtedly enjoy this, it's not the most economical way to feed them. Based on our studies, we recommend feeding Purina Nursing Chow for only four weeks to calves that weighed over 80 pounds at birth and five weeks to calves that weighed under 80 pounds at birth.

Holstein heifers at Purina's Research Farm average 320 pounds at four months. This shows that extended milk replacer feeding is not necessary.

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